



Neptune[®] 2

Waste Management System

Site Preparation, Installation, and Maintenance Guide

120 VAC Docking Station

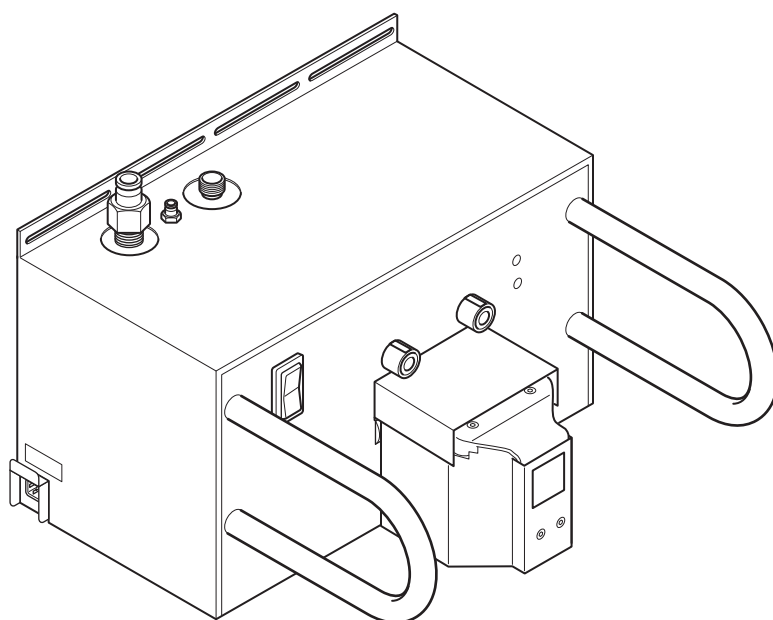
REF 0702-014-000

230 VAC Docking Station

REF 0702-015-000

Instructions For Use

R_x ONLY



Instructions

To Install the Docker



WARNING: HEAVY EQUIPMENT – ALWAYS have more than one person lift this equipment from the shipping pallet using the lift points (Figure 4). See the *Specifications* section for docker weight. Failure to comply may result in personal injury.

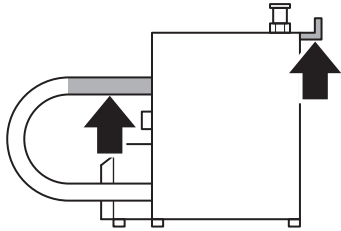


Figure 4 Docker Lift Points

CAUTIONS:

- Make sure the pressure and temperature values of the facility water supply are within the required specified ranges. See the *Specifications* section.
- If mounting the docker to a wall, make sure no gap exists between the docker mounting bracket and the wall. ALWAYS align the mounting hardware (not supplied) with the wall studs to make sure the docker is mounted to the wall securely. Failure to comply may cause inadvertent docker movement and result in wall or product damage.
- ALWAYS use the correct power cord. Configurations may vary. See the *Accessories* section for power cord options.

NOTES:

- Only individuals trained and experienced in the maintenance of reusable medical devices should install, inspect, and test this equipment.
- The docker is installed in a utility closet or disposal area with access to electrical power, a water supply, and a fluid waste drain. The healthcare facility is responsible for the preparation of the installation site and the availability of utilities. See the *Specifications* section for electrical power, water, and drainage requirements. Make sure the installation area meets utility and space requirements (Figure 5).
- If the installation site does not meet local ventilation requirements, obtain and install a ventilation device that will meet the necessary local requirements.

- The docker is equipped with an internal backflow prevention device. See the *Specifications* section for details. Refer to local plumbing codes to determine whether an external backflow prevention device is also required.
- Make sure the plumbing configuration is NOT susceptible to water hammer conditions.
- Make sure the waste outlet hose is connected properly to minimize the escape of noxious fumes and odors.

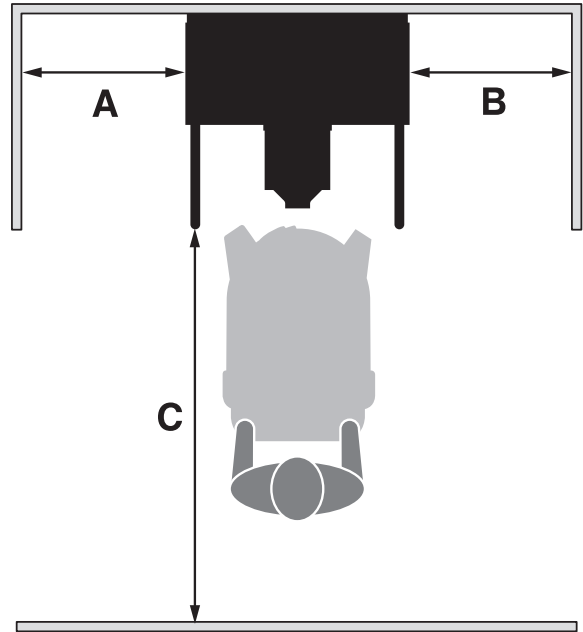


Figure 5 Minimum Floor Space Requirements

A	Left-Side Clearance	15.2 cm [6 inch]
B	Right-Side Clearance	No minimum requirement
C	Front Clearance	121.9 cm [48 inch]

1. To Install the Docker and Connect Utilities (Figures 6 and 7)

- Place the docker on the floor and against a wall with access to electrical power, water, and a fluid waste disposal drain.
- Recommended: Install mounting screws (not supplied) through the mounting bracket of the docker and secure the docker to the wall.

NOTE: If allowed by current local building and electrical codes, mounting the docker to the wall is strongly recommended. The docker is not to be installed in a patient environment.

- Connect the water inlet hose between the water inlet port of the docker and the facility water supply.
- Connect the waste outlet hose to the waste outlet port of the docker and the drain emptying into the fluid waste disposal system.

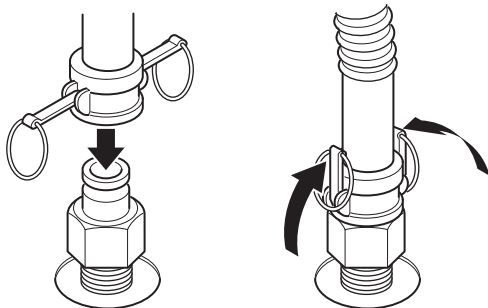


Figure 6 To Connect the Waste Outlet Hose

- Connect the power cord between the electrical receptacle of the docker and the facility electrical power source.

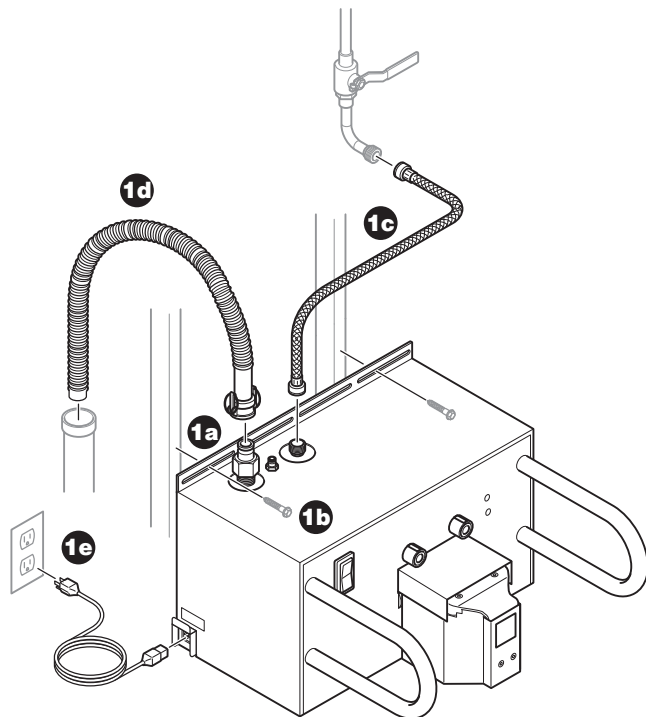


Figure 7 To Install the Docker and Connect Utilities

2. To Apply Power, Water, and Detergent (Figure 8)

- Press the power switch ON. Make sure the power switch illuminates.
- Open the facility water valve to allow water to flow to the docker. Inspect the water supply connections for any leaks. Repair any plumbing to stop leakage if necessary.
- Push the detergent inlet tube into the detergent inlet port of the docker until the tube stops.
- To connect the bottle of detergent, see the instructions for use supplied with the Stryker Neptune Docking Detergent REF 0700-001-026. See the *Accessories* section. Mounting the detergent bottle will facilitate effective detergent dispensing and optimal viewing of the detergent level.
- Mount the Neptune 2 Docking Station Instruction Poster to a wall near the docking station.

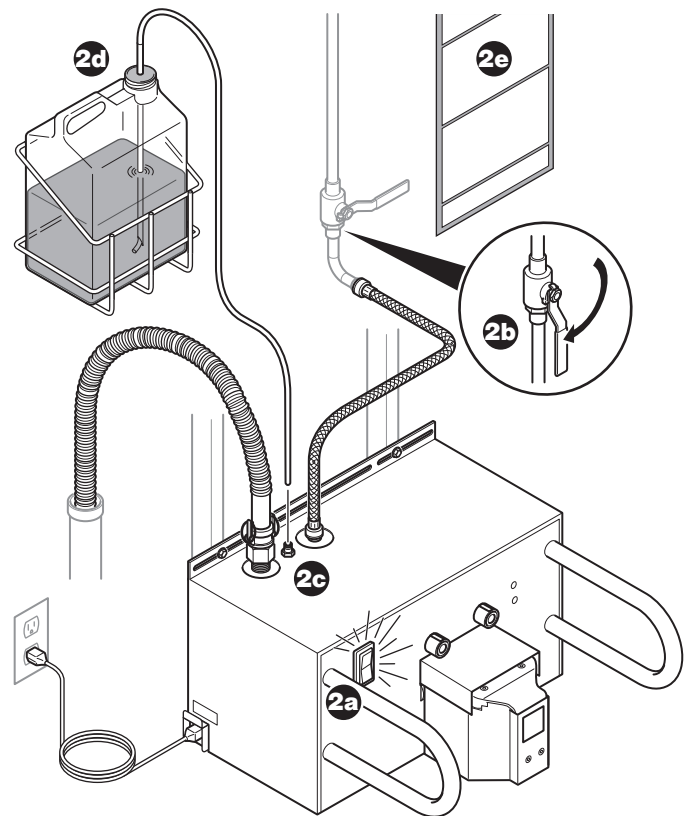







Figure 8 To Apply Power, Water, and Detergent

Specifications

Model:	Neptune 2 Docking Station	
REF:	0702-014-000	0702-015-000
Electrical Power Requirements:	120 V  , 60 Hz, 3.0 A 15 A receptacle connection	230 V  , 50 Hz, 3.0 A 10 A [minimum] receptacle connection
European Conformity:	Not Applicable	 0197
Product Safety Certification:	 CSA International C US Canadian Standards Association (CSA) CAN/CSA-C22.2 No. 60601-1:08, <i>Medical Electrical Equipment – Part 1: General Requirements for Basic Safety and Essential Performance</i> CAN/CSA-C22.2 No. 601.1-M90, <i>Medical Electrical Equipment – Part 1: General Requirements for Safety</i> American National Standards Institute (ANSI)/ Association for the Advancement of Medical Instrumentation (AAMI) ANSI/AAMI ES60601-1:2005, <i>Medical Electrical Equipment – Part 1: General Requirements for Basic Safety and Essential Performance</i> ; Consolidated Reprint (2009); Amendment 2 (2010) Underwriters Laboratories (UL) UL 60601-1, <i>Medical Electrical Equipment, Part 1: General Requirements for Safety – First Edition</i> ; Revisions through and including April 26, 2006 International Electrotechnical Commission (IEC) IEC 60601-1:2005, <i>Medical Electrical Equipment – Part 1: General Requirements for Basic Safety and Essential Performance</i> ; IEC Corrigendum 1 (2006); IEC Corrigendum 2 (2007) IEC 60601-1:1988, <i>Medical Electrical Equipment – Part 1: General Requirements for Safety - Second Edition</i> ; Amendment 1 (1991); Amendment 2 (1995); Corrigendum 1 (1995)	European Committee for Electrotechnical Standardization (CENELEC) EN 60601-1:2006, <i>Medical Electrical Equipment – Part 1: General Requirements for Basic Safety and Essential Performance</i> IEC Corrigendum 1 (2006); IEC Corrigendum 2 (2007); CENELEC Corrigendum (2010); CENELEC Amendment A11 (2011)
Dimensions:		
Width:	58.4 cm [23 inch]	
Height:	40.6 cm [16 inch]	
Depth:	58.4 cm [23 inch]	
Mass:	43 kg [95 lb]	
Mode of Operation:	Continuous	
Equipment Classification:	Class 1 Medical Electrical (ME) Equipment	
Ingress Protection (IP):	IPX0	
Light Emitting Diode (LED) Classification (infrared communication ports):	 WARNING: INVISIBLE LED RADIATION DO NOT VIEW DIRECTLY WITH OPTICAL INSTRUMENTS CLASS 1M LED PRODUCT — Viewing the laser output with certain optical instruments (for example, eye loupes, magnifiers and microscopes) within a distance of 100 mm may pose an eye hazard.	
Ground Type:	 Protective Earth (ground)	

Specifications (continued)

Water Requirements:

Pressure Range: 345 kPa to 827 kPa [50 to 120 psi]

Temperature Range: 4.4 to 43.3 °C [40 to 110 °F]

NOTE: For optimal cleaning of the rover canisters, use 37.8 to 43.3 °C [100 to 110 °F].

Fitting Connection: Facility source is equipped with a 3/4" Male (garden) Hose Thread (MHT) fitting and has a dedicated shutoff valve.

Water Quality: Potable tap water

Water Usage: Approximately 34 liters [9 gallons] per rinse cycle at default settings on standard cycle; water usage fluctuates due to selected cycle and facility flow.

Facility Backflow

Prevention Device: Refer to local plumbing codes to determine whether an external backflow prevention device is required.

Drainage Requirements:	Floor drain or permanent service connection per local plumbing codes; 2.44 m [8 feet] connection distance (maximum)
Internal Backflow Prevention Device:	Single check valve constructed of materials that comply with NSF/ANSI 61: Drinking Water System Components – Health Effects.
Water Inlet Hose:	1.27 cm [0.50 inch] inner diameter 1.83 m [6 feet] length
Waste Outlet Hose:	25.4 cm [1.0 inch] inner diameter 1.83 m [6 feet] length
Waste Pump Outlet Flow:	23.8 liters/minute [6.3 gallons/minute]
Detergent Inlet Tube:	0.635 cm [0.25 inch] outer diameter 1.2 m [4 feet] length


Environmental Conditions:	Operation	Storage and Transportation (BEFORE initial use)	Storage and Transportation (AFTER initial use)
Temperature Limitation:			
Humidity Limitation:			
Atmospheric Pressure Limitation:			

Guidance and manufacturer's declaration - electromagnetic emissions		
The Neptune 2 Dockers, REF 0702-014-000 and REF 0702-015-000, are intended for use in the electromagnetic environment specified below. The customer or the user of the Neptune 2 Docker, REF 0702-014-000 or REF 0702-015-000, should assure that it is used in such an environment.		
Emissions test	Compliance	Electromagnetic environment - guidance
RF emissions CISPR 11	Group 1	The Neptune 2 Dockers, REF 0702-014-000 and REF 0702-015-000, use RF energy only for its internal function. Therefore, its RF emissions are very low and are not likely to cause any interference in nearby electronic equipment.
RF emissions CISPR 11	Class A	The Neptune 2 Dockers, REF 0702-014-000 and REF 0702-015-000, are suitable for use in all establishments other than domestic, and may be used in domestic establishments and those directly connected to the public low-voltage power supply network that supplies buildings used for domestic purposes, provided the following warning is heeded:
Harmonic emissions IEC 61000-3-2	Class A	
Voltage fluctuations/flicker emissions IEC 61000-3-3	Complies	WARNING: This equipment/system is intended for use by healthcare professionals only. This equipment/system may cause radio interference or may disrupt the operation of nearby equipment. It may be necessary to take mitigation measures, such as reorienting or relocating the Neptune 2 Dockers, REF 0702-014-000 and REF 0702-015-000, or shielding the location.

Specifications

Guidance and manufacturer's declaration - electromagnetic immunity			
The Neptune 2 Dockers, REF 0702-014-000 and REF 0702-015-000, are intended for use in the electromagnetic environment specified below. The customer or the user of the Neptune 2 Dockers, REF 0702-014-000 and REF 0702-015-000, should assure that it is used in such an environment.			
Immunity test	IEC 60601 test level	Compliance level	Electromagnetic environment - guidance
Electrostatic discharge (ESD) IEC 61000-4-2	± 6 kV contact ±8 kV air	±6 kV contact ± 8 kV air	Floors should be wood, concrete or ceramic tile. If floors are covered with synthetic material, the relative humidity should be at least 30%.
Electrical fast transient/burst IEC 61000-4-4	± 2 kV for power supply lines ± 1kV for input/output lines	± 2 kV for power supply lines ±1 kV for input/output lines	Mains power quality should be that of a typical commercial or hospital environment.
Surge IEC 61000-4-5	± 1 kV line(s) to line(s) ± 2 kV line(s) to earth	± 1 kV line(s) to line(s) ± 2 kV line(s) to earth	Mains power quality should be that of a typical commercial or hospital environment.
Voltage dips, short interruptions and voltage variations on power supply input lines IEC 61000-4-11	<5% U_T (>95% dip in U_T) for 0.5 cycle 40% U_T (60% dip in U_T) for 5 cycles 70% U_T (30% dip in U_T) for 25 cycles <5% U_T (>95% dip in U_T) for 5 s	<5% U_T (>95% dip in U_T) for 0.5 cycle 40% U_T (60% dip in U_T) for 5 cycles 70% U_T (30% dip in U_T) for 25 cycles <5% U_T (>95% dip in U_T) for 5 s	Mains power quality should be that of a typical commercial or hospital environment. If the user of the Neptune 2 Dockers, REF 0702-014-000 and REF 0702-015-000, requires continued operation during power mains interruptions, it is recommended that the Neptune 2 Dockers, REF 0702-014-000 and REF 0702-015-000, be powered from an uninterruptible power supply or a battery.
Power frequency (50/60 Hz) magnetic field IEC 61000-4-8	3 A/m	3 A/m	Power frequency magnetic fields should be at levels characteristics of a typical location in a typical commercial or hospital environment.
NOTE: U_T is the a.c. mains voltage prior to application of the test level.			

Specifications (continued)

Guidance and manufacturer's declaration - electromagnetic immunity			
The Neptune 2 Dockers, REF 0702-014-000 and REF 0702-015-000, are intended for use in the electromagnetic environment specified below. The customer or the user of the Neptune 2 Docker, REF 0702-014-000 or REF 0702-015-000, should assure that it is used in such an environment.			
Immunity test	IEC 60601 test level	Compliance level	Electromagnetic environment - guidance
Conducted RF IEC 61000-4-6	3 Vrms 150 kHz to 80 MHz	3 V	<p>Portable and mobile RF communications equipment should be used no closer to any part of the Neptune 2 Dockers, REF 0702-014-000 and REF 0702-015-000, including cables, than the recommended separation distance calculated from the equation applicable to the frequency of the transmitter.</p> <p>Recommended separation distance</p> $d=1.2\sqrt{P}$ <p>150 kHz to 80 MHz</p> $d=1.2\sqrt{P}$ <p>80 MHz to 800 MHz</p> $d=2.3\sqrt{P}$ <p>800 MHz to 2.5 GHz</p> <p>where P is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer and d is the recommended separation distance in metres (m).</p> <p>Field strengths from fixed RF transmitters, as determined by an electromagnetic site survey^a should be less than the compliance level in each frequency range.</p> <p>Interference may occur in the vicinity of equipment marked with the following symbol:</p>  <p>(Non-ionizing electromagnetic radiation)</p>
Radiated RF IEC 61000-4-3	3 V/m 80 MHz to 2.5 GHz	3 V/m	
NOTE 1: At 80 MHz and 800 MHz the higher frequency range applies.			
NOTE 2: These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.			
^a Field strengths from fixed transmitters, such as base stations for radio (cellular/cordless) telephones and land mobile radios, amateur radio, AM and FM radio broadcast and TV broadcast cannot be predicted theoretically with accuracy. To assess the electromagnetic environment due to fixed RF transmitters, an electromagnetic site survey should be considered. If the measured field strength in the location in which the Neptune 2 Dockers, REF 0702-014-000 and REF 0702-015-000, are used exceeds the applicable RF compliance level above, the Neptune 2 Dockers, REF 0702-014-000 and REF 0702-015-000, should be observed to verify normal operation. If abnormal performance is observed, additional measures may be necessary, such as re-orienting or relocating the Neptune 2 Dockers, REF 0702-014-000 and REF 0702-015-000.			
^b Over the frequency range 150 kHz to 80 MHz, field strengths should be less than 3 V/m.			

Specifications

Recommended separation distances between portable and mobile RF communications equipment and the Neptune 2 Dockers, REF 0702-014-000 and REF 0702-015-000			
The Neptune 2 Dockers, REF 0702-014-000 and REF 0702-015-000, are intended for use in an electromagnetic environment in which radiated RF disturbances are controlled. The customer or the user of the Neptune 2 Dockers, REF 0702-014-000 and REF 0702-015-000, can help prevent electromagnetic interference by maintaining a minimum distance between portable and mobile RF communications equipment (transmitters) and the Neptune 2 Dockers, REF 0702-014-000 and REF 0702-015-000, as recommended below, according to the maximum output power of the communications equipment.			
Rated maximum output power of transmitter W	Separation distance according to frequency of transmitter m		
	150 kHz to 80 MHz $d=1.2\sqrt{P}$	80 MHz to 800 MHz $d=1.2\sqrt{P}$	800 MHz to 2.5 GHz $d=2.3\sqrt{P}$
0.01	0.12	0.12	0.23
0.1	0.38	0.38	0.73
1	1.2	1.2	2.3
10	3.8	3.8	7.3
100	12	12	23
For transmitters rated at a maximum output power not listed above, the recommended separation distance d in meters (m) can be estimated using the equation applicable to the frequency of the transmitter, where P is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer.			
NOTE 1: At 80 MHz and 800 MHz, the separation distance for the higher frequency range applies.			
NOTE 2: These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.			